SEQUENCE LISTING

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	.> CI		(915))												(
<220 <223		escri	iptic	on of	f Art	ific	cial	Sequ	1ence	e:PBC	C CH	MER <i>I</i>	Ą			,
	gct				aat Asn											48
gtc Val	cga Arg	act Thr	ggc Gly 20	tat Tyr	G]Å ddd	aag Lys	gat Asp	atg Met 25	ata Ile	aaa Lys	gtt Val	ctc Leu	cat His 30	att Ile	cag Gln	96
cga Arg	gat Asp	gga Gly 35	aaa Lys	tat Tyr	cac His	agc Ser	att Ile 40	aaa Lys	gag Glu	gtg Val	gca Ala	act Thr 45	tca Ser	gtg Val	caa Gln	144
ctg Leu	act Thr 50	ttg Leu	agc Ser	tcc Ser	aaa Lys	aaa Lys 55	gat Asp	tac Tyr	ctg Leu	cat His	gga Gly 60	gac Asp	aat Asn	tca Ser	gat Asp	192
					acc Thr 70											240
ttc Phe	aaa Lys	ggc Gly	atc Ile	aaa Lys 85	agc Ser	ata Ile	gaa Glu	act Thr	ttt Phe 90	gct Ala	gtg Val	act Thr	atc Ile	tgt Cys 95	gag Glu	288
cat His	ttc Phe	ctt Leu	tct Ser 100	tcc Ser	ttc Phe	aag Lys	cat His	gtc Val 105	atc Ile	aga Arg	gct Ala	caa Gln	gtc Val 110	tat Tyr	gtg Val	336
					aag Lys											384
cat His	gca Ala 130	ttt Phe	att Ile	tat Tyr	act Thr	cct Pro 135	act Thr	gga Gly	acg Thr	cac His	ttc Phe 140	tgt Cys	gag Glu	gtt Val	gaa Glu	432
cag	ata	agg	aat	gga	cct	сса	gtc	att	cat	tct	gga	atc	aaa	gac	cta	480

I.	V															
Gln 145	Ile	Arg	Asn	Gly	Pro 150	Pro	Val	Ile	His	Ser 155	Gly	Ile	Lys	Asp	Leu 160	
aaa Lys	gtc Val	ttg Leu	aaa Lys	aca Thr 165	acc Thr	cag Gln	tct Ser	ggc Gly	ttt Phe 170	gaa Glu	gga Gly	ttc Phe	atc Ile	aag Lys 175	gac Asp	528
				ctc Leu												576
gtg Val	tac Tyr	tgc Cys 195	aaa Lys	tgg Trp	cgc Arg	tac Tyr	cac His 200	cag Gln	ggc Gly	aga Arg	gat Asp	gtg Val 205	gac Asp	ttt Phe	gag Glu	624
gcc Ala	acc Thr 210	tgg Trp	gac Asp	act Thr	gtt Val	agg Arg 215	agc Ser	att Ile	gtc Val	ctg Leu	cag Gln 220	aaa Lys	ttt Phe	gct Ala	ggg Gly	672
ccc Pro 225	tat Tyr	gac Asp	aaa Lys	ggc Gly	gag Glu 230	tac Tyr	tca Ser	ccc Pro	tct Ser	gtg Val 235	cag Gln	aag Lys	acc Thr	ctc Leu	tat Tyr 240	720
				ctc Leu 245												768
				cca Pro												816
atg Met	ggt Gly	ctg Leu 275	atc Ile	aac Asn	aag Lys	gaa Glu	gag Glu 280	gtc Val	ttg Leu	ctg Leu	cca Pro	tta Leu 285	gac Asp	aat Asn	cca Pro	864
tat Tyr	gga Gly 290	aaa Lys	att Ile	act Thr	ggt Gly	aca Thr 295	gtc Val	aag Lys	agg Arg	aag Lys	ttg Leu 300	tct Ser	tca Ser	aga Arg	ctg Leu	912
tga																915
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<220>

<223> Description of Artificial Sequence: PBC CHIMERA

<400> 2

Met Ala His Tyr Arg Asn Asp Tyr Lys Lys Asn Asp Glu Val Glu Phe 1 5 10 15

Val Arg Thr Gly Tyr Gly Lys Asp Met Ile Lys Val Leu His Ile Gln 20 25 30

Arg Asp Gly Lys Tyr His Ser Ile Lys Glu Val Ala Thr Ser Val Gln $_{\mbox{35}}$

Leu Thr Leu Ser Ser Lys Lys Asp Tyr Leu His Gly Asp Asn Ser Asp 50 55 60

Val Ile Pro Thr Asp Thr Ile Lys Asn Thr Val Asn Val Leu Ala Lys 65 70 75 80

Phe Lys Gly Ile Lys Ser Ile Glu Thr Phe Ala Val Thr Ile Cys Glu 90 His Phe Leu Ser Ser Phe Lys His Val Ile Arg Ala Gln Val Tyr Val 105 Glu Glu Val Pro Trp Lys Arg Phe Glu Lys Asn Gly Val Lys His Val His Ala Phe Ile Tyr Thr Pro Thr Gly Thr His Phe Cys Glu Val Glu Gln Ile Arg Asn Gly Pro Pro Val Ile His Ser Gly Ile Lys Asp Leu 150 Lys Val Leu Lys Thr Thr Gln Ser Gly Phe Glu Gly Phe Ile Lys Asp Gln Phe Thr Thr Leu Pro Glu Val Lys Asp Arg Cys Phe Ala Thr Gln Val Tyr Cys Lys Trp Arg Tyr His Gln Gly Arg Asp Val Asp Phe Glu 200 195 Ala Thr Trp Asp Thr Val Arg Ser Ile Val Leu Gln Lys Phe Ala Gly Pro Tyr Asp Lys Gly Glu Tyr Ser Pro Ser Val Gln Lys Thr. Leu Tyr 230 Asp Ile Gln Val Leu Ser Leu Ser Arg Val Pro Glu Ile Glu Asp Met 250 Glu Ile Ser Leu Pro Asn Ile His Tyr Phe Asn Ile Asp Met Ser Lys Met Gly Leu Ile Asn Lys Glu Glu Val Leu Leu Pro Leu Asp Asn Pro Tyr Gly Lys Ile Thr Gly Thr Val Lys Arg Lys Leu Ser Ser Arg Leu 295 300 290 <210> 3 <211> 915 <212> DNA <213> Artificial Sequence <220> <221> CDS <222> (1)..(915) <223> Description of Artificial Sequence:pks chimera <400> 3 atg gct cat tac cgt aat gac tac aaa aag aat gat gag gta gag ttt 48 Met Ala His Tyr Arg Asn Asp Tyr Lys Lys Asn Asp Glu Val Glu Phe gtc cga act ggc tat ggg aag gat atg ata aaa gtt ctc cat att cag 96 Val Arg Thr Gly Tyr Gly Lys Asp Met Ile Lys Val Leu His Ile Gln cga gat gga aaa tat cac agc att aaa gag gtg gca act tca gtg caa

					_								4					
a. 1)	2a-	,																
	l Ara	Asp	Gl v	Tue	Туг	Hie	Sar	Tla	T.ve	Glu	Val	Δla	Thr	Ser	Val	Gln		
	Arg	ASP	35	гуз	ıyı	111.5	261	40	цуз	GIU	vai	ALG	45	261	vai	GIII		
		act Thr 50															192	
		atc Ile															240	
	ttc Phe	aaa Lys	ggc Gly	atc Ile	aaa Lys 85	agc Ser	ata Ile	gaa Glu	act Thr	ttt Phe 90	gct Ala	gtg Val	act Thr	atc Ile	tgt Cys 95	gag Glu	288	
		ttc Phe															336	
	gaa Glu	gaa Glu	gtt Val 115	cct Pro	tgg Trp	aag Lys	cgt Arg	ttt Phe 120	gaa Glu	aag Lys	aat Asn	gga Gly	gtt Val 125	aag Lys	cat His	gtc Val	384	
		gca Ala 130															432	
	cag Gln 145	ata Ile	agg Arg	aat Asn	gga Gly	cct Pro 150	cca Pro	gtc Val	att Ile	cat His	tct Ser 155	gga Gly	atc Ile	aaa Lys	gac Asp	cta Leu 160	480	
		gtc Val															528	
		ttc Phe															576	
	gtg Val	tac Tyr	tgc Cys 195	aaa Lys	tgg Trp	cgc Arg	tac Tyr	cac His 200	cag Gln	ggc Gly	aga Arg	gat Asp	gtg Val 205	gac Asp	ttt Phe	gag Glu	624	-
		acc Thr 210															672	
	ccc Pro 225	tat Tyr	gac Asp	aaa Lys	ggc Gly	gag Glu 230	tac Tyr	tcg Ser	ccc Pro	tct Ser	gtc Val 235	cag Gln	aag Lys	aca Thr	ctc Leu	tat Tyr 240	720	
		atc Ile															768	
·		atc Ile															816	
	atg Met	gga Gly	ctg Leu 275	atc Ile	aac Asn	aag Lys	gaa Glu	gag Glu 280	gtc Val	ttg Leu	cta Leu	cct Pro	tta Leu 285	gac Asp	aat Asn	cca Pro	864	
	tat Tyr	gga Gly 290	aaa Lys	att Ile	act Thr	ggt Gly	aca Thr 295	gtc Val	aag Lys	agg Arg	aag Lys	ttg Leu 300	tct Ser	tca Ser	aga Arg	ctg Leu	912	

tga 915

<210> 4 <211> 304 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence:pks chimera <400> 4 Met Ala His Tyr Arg Asn Asp Tyr Lys Lys Asn Asp Glu Val Glu Phe Val Arg Thr Gly Tyr Gly Lys Asp Met Ile Lys Val Leu His Ile Gln Arg Asp Gly Lys Tyr His Ser Ile Lys Glu Val Ala Thr Ser Val Gln Leu Thr Leu Ser Ser Lys Lys Asp Tyr Leu His Gly Asp Asn Ser Asp Val Ile Pro Thr Asp Thr Ile Lys Asn Thr Val Asn Val Leu Ala Lys Phe Lys Gly Ile Lys Ser Ile Glu Thr Phe Ala Val Thr Ile Cys Glu His Phe Leu Ser Ser Phe Lys His Val Ile Arg Ala Gln Val Tyr Val Glu Glu Val Pro Trp Lys Arg Phe Glu Lys Asn Gly Val Lys His Val His Ala Phe Ile Tyr Thr Pro Thr Gly Thr His Phe Cys Glu Val Glu Gln Ile Arg Asn Gly Pro Pro Val Ile His Ser Gly Ile Lys Asp Leu 150 Lys Val Leu Lys Thr Thr Gln Ser Gly Phe Glu Gly Phe Ile Lys Asp 170 Gln Phe Thr Thr Leu Pro Glu Val Lys Asp Arg Cys Phe Ala Thr Gln Val Tyr Cys Lys Trp Arg Tyr His Gln Gly Arg Asp Val Asp Phe Glu 200 Ala Thr Trp Asp Thr Val Arg Ser Ile Val Leu Gln Lys Phe Ala Gly Pro Tyr Asp Lys Gly Glu Tyr Ser Pro Ser Val Gln Lys Thr Leu Tyr Asp Ile Gln Val Leu Thr Leu Gly Gln Val Pro Glu Ile Glu Asp Met 250 Glu Ile Ser Leu Pro Asn Ile His Tyr Leu Asn Ile Asp Met Ser Lys Met Gly Leu Ile Asn Lys Glu Glu Val Leu Leu Pro Leu Asp Asn Pro 275 280 285

Tyr Gly Lys Ile Thr Gly Thr Val Lys Arg Lys Leu Ser Ser Arg Leu 290 295 300

<210> 5

<211> 304

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: baboon D3H

<400> 5

Met Ala His Tyr His Asn Asn Tyr Lys Lys Asn Asp Glu Leu Glu Phe 1 5 10 15

Val Arg Thr Gly Tyr Gly Lys Asp Met Val Lys Val Leu His Ile Gln
20 25 30

Arg Asp Gly Lys Tyr His Ser Ile Lys Glu Val Ala Thr Ser Val Gln 35 40 45

Leu Thr Leu Ser Ser Lys Lys Asp Tyr Leu His Gly Asp Asn Ser Asp 50 55 60

Ile Ile Pro Thr Asp Thr Ile Lys Asn Thr Val His Val Leu Ala Lys 65 70 75 80

Phe Lys Gly Ile Lys Ser Ile Glu Ala Phe Gly Val Asn Ile Cys Glu 85 90 95

Tyr Phe Leu Ser Ser Phe Asn His Val Ile Arg Ala Gln Val Tyr Val 100 105 110 .

Glu Glu Ile Pro Trp Lys Arg Leu Glu Lys Asn Gly Val Lys His Val 115 120 125

His Ala Phe Ile His Thr Pro Thr Gly Thr His Phe Cys Glu Val Glu 130 135 140

Gln Leu Arg Ser Gly Pro Pro Val Ile His Ser Gly Ile Lys Asp Leu 145 150 155 160

Lys Val Leu Lys Thr Thr Gln Ser Gly Phe Glu Gly Phe Ile Lys Asp 165 170 175

Gln Phe Thr Thr Leu Pro Glu Val Lys Asp Arg Cys Phe Ala Thr Gln 180 185 190

Val Tyr Cys Lys Trp Arg Tyr His Gln Cys Arg Asp Val Asp Phe Glu 195 200 205

Ala Thr Trp Gly Thr Ile Arg Asp Leu Val Leu Glu Lys Phe Ala Gly 210 215 220

Pro Tyr Asp Lys Gly Glu Tyr Ser Pro Ser Val Gln Lys Thr Leu Tyr 225 230 235 240

Asp Ile Gln Val Leu Ser Leu Ser Arg Val Pro Glu Ile Glu Asp Met 245 250 255

Glu Ile Ser Leu Pro Asn Ile His Tyr Phe Asn Ile Asp Met Ser Lys 260 265 270 Met Gly Leu Ile Asn Lys Glu Glu Val Leu Leu Pro Leu Asp Asn Pro 275 280 285

Tyr Gly Lys Ile Thr Gly Thr Val Lys Arg Lys Leu Ser Ser Arg Leu 290 295 300

<210> 6

<211> 304

<212> PRT <213> baboon

<400> 6

Met Ala Asp Tyr His Asn Asn Tyr Lys Lys Asn Asp Glu Leu Glu Phe 1 5 10 15

Val Arg Thr Gly Tyr Gly Lys Asp Met Val Lys Val Leu His Ile Gln
20 25 30

Arg Asp Gly Lys Tyr His Ser Ile Lys Glu Val Ala Thr Ser Val Gln 35 40 45

Leu Thr Leu Ser Ser Lys Lys Asp Tyr Leu His Gly Asp Asn Ser Asp 50 55 60

Ile Ile Pro Thr Asp Thr Ile Lys Asn Thr Val His Val Leu Ala Lys 65 70 75 80

Phe Lys Gly Ile Lys Ser Ile Glu Ala Phe Gly Val Asn Ile Cys Glu 85 90 95

Tyr Phe Leu Ser Ser Phe Asn His Val Ile Arg Ala Gln Val Tyr Val 100 105 110

Glu Glu Ile Pro Trp Lys Arg Leu Glu Lys Asn Gly Val Lys His Val 115 120 125

His Ala Phe Ile His Thr Pro Thr Gly Thr His Phe Cys Glu Val Glu $130\,$ $135\,$ $140\,$

Lys Val Leu Lys Thr Thr Gln Ser Gly Phe Glu Gly Phe Ile Lys Asp 165 170 175

Gln Phe Thr Thr Leu Pro Glu Val Lys Asp Arg Cys Phe Ala Thr Gln $180 \,$ $185 \,$ 190

Val Tyr Cys Lys Trp Arg Tyr His Gln Cys Arg Asp Val Asp Phe Glu 195 200 205

Ala Thr Trp Gly Thr Ile Arg Asp Leu Val Leu Glu Lys Phe Ala Gly 210 215 220

Pro Tyr Asp Lys Gly Glu Tyr Ser Pro Ser Val Gln Lys Thr Leu Tyr 225 230 235 240

Asp Ile Gln Val Leu Ser Leu Ser Arg Val Pro Glu Ile Glu Asp Met

Glu Ile Ser Leu Pro Asn Ile His Tyr Phe Asn Ile Asp Met Ser Lys 260 265 270

Met Gly Leu Ile Asn Lys Glu Glu Val Leu Leu Pro Leu Asp Asn Pro 275 280 285

Tyr Gly Lys Ile Thr Gly Thr Val Lys Arg Lys Leu Ser Ser Arg Leu 290 295 300

<210> 7 <211> 304 <212> PRT <213> pig <400> 7

Met Ala His Tyr Arg Asn Asp Tyr Lys Lys Asn Asp Glu Val Glu Phe

1 5 10 15

Val Arg Thr Gly Tyr Gly Lys Asp Met Ile Lys Val Leu His Ile Gln
20 25 30

Arg Asp Gly Lys Tyr His Ser Ile Lys Glu Val Ala Thr Ser Val Gln 35 40 45

Leu Thr Leu Ser Ser Lys Lys Asp Tyr Leu His Gly Asp Asn Ser Asp 50 55 60

Val Ile Pro Thr Asp Thr Ile Lys Asn Thr Val Asn Val Leu Ala Lys 65 70 75 80

Phe Lys Gly Ile Lys Ser Ile Glu Thr Phe Ala Val Thr Ile Cys Glu 85 90 95

His Phe Leu Ser Ser Phe Lys His Val Ile Arg Ala Gln Val Tyr Val 100 105 110

Glu Glu Val Pro Trp Lys Arg Phe Glu Lys Asn Gly Val Lys His Val 115 120 125

His Ala Phe Ile Tyr Thr Pro Thr Gly Thr His Phe Cys Glu Val Glu 130 135 140

Gln Ile Arg Asn Gly Pro Pro Val Ile His Ser Gly Ile Lys Asp Leu 145 150 155 160

Lys Val Leu Lys Thr Thr Gln Ser Gly Phe Glu Gly Phe Ile Lys Asp 165 170 175

Gln Phe Thr Thr Leu Pro Glu Val Lys Asp Arg Cys Phe Ala Thr Gln 180 185 190

Val Tyr Cys Lys Trp Arg Tyr His Gln Gly Arg Asp Val Asp Phe Glu 195 200 205

Ala Thr Trp Asp Thr Val Arg Ser Ile Val Leu Gln Lys Phe Ala Gly 210 . 215 220

Pro Tyr Asp Lys Gly Glu Tyr Ser Pro Ser Val Gln Lys Thr Leu Tyr 225 230 240

Asp Ile Gln Val Leu Thr Leu Gly Gln Val Pro Glu Ile Glu Asp Met 245 250 255

Glu Ile Ser Leu Pro Asn Ile His Tyr Leu Asn Ile Asp Met Ser Lys

260 265 270

Met Gly Leu Ile Asn Lys Glu Glu Val Leu Leu Pro Leu Asp Asn Pro 275 280 285

Tyr Gly Arg Ile Thr Gly Thr Val Lys Arg Lys Leu Thr Ser Arg Leu 290 295 300

65 70 75 80

Ile Glu Thr Phe Ala Val Thr Ile Cys Glu His Phe Leu Ser Ser Phe

85 90 95

Lys His Val Ile Arg Ala Gln Val Tyr Val Glu Glu Val Pro Trp Lys
100 105 110

Arg Phe Glu Lys Asn Gly Val Lys His Val His Ala Phe Ile Tyr Thr 115 120 125

Pro Thr Gly Thr His Phe Cys Glu Val Glu Gln Ile Arg Asn Gly Pro 130 135 140

Pro Val Ile His Ser Gly Ile Lys Asp Leu Lys Val Leu Lys Thr Thr 145 150 155 160

Gln Ser Gly Phe Glu Gly Phe Ile Lys Asp Gln Phe Thr Thr Leu Pro 165 170 175

Glu Val Lys Asp Arg Cys Phe Ala Thr Gln Val Tyr Cys Lys Trp Arg 180 185 190

Tyr His Gln Gly Arg Asp Val Asp Phe Glu Ala Thr Trp Asp Thr Val 195 200 205

Arg Ser Ile Val Leu Gln Lys Phe Ala Gly Pro Tyr Asp Lys Gly Glu 210 215 220

Tyr Ser Pro Ser Val Gln Lys Thr Leu Tyr Asp Ile Gln Val Leu Ser 225 230 235 Leu Ser Arg Val Pro Glu Ile Glu Asp Met Glu Ile Ser Leu Pro Asn 245 250 255

Ile His Tyr Phe Asn Ile Asp Met Ser Lys Met Gly Leu Ile Asn Lys 260 265 270

Glu Glu Val Leu Leu Pro Leu Asp Asn Pro Tyr Gly Lys Ile Thr Gly 275 280 285

Thr Val Lys Arg Lys Leu Ser Ser Arg Leu 290 295

<210> 9

<211> 301

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PBC carboxy truncated

<400> 9

Met Ala His Tyr Arg Asn Asp Tyr Lys Lys Asn Asp Glu Val Glu Phe $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$

Val Arg Thr Gly Tyr Gly Lys Asp Met Ile Lys Val Leu His Ile Gln
20 25 30

Arg Asp Gly Lys Tyr His Ser Ile Lys Glu Val Ala Thr Ser Val Glu 35 40 45

Leu Thr Leu Ser Ser Lys Lys Asp Tyr Leu His Gly Asp Asn Ser Asp 50 55 60

Val Ile Pro Thr Asp Thr Ile Lys Asn Thr Val Asn Val Leu Ala Lys 65 70 75 80

Phe Lys Gly Ile Lys Ser Ile Glu Thr Phe Ala Val Thr Ile Cys Glu 85 90 95

His Phe Leu Ser Ser Phe Lys His Val Ile Arg Ala Gln Val Tyr Val
100 105 110

Glu Glu Val Pro Trp Lys Arg Phe Glu Lys Asn Gly Val Lys His Val 115 . 120 . 125

His Ala Phe Ile Tyr Thr Pro Thr Gly Thr His Phe Cys Glu Val Glu 130 135 140

Gln Ile Arg Asn Gly Pro Pro Val Ile His Ser Gly Ile Lys Asp Leu 145 150 155 160

Lys Val Leu Lys Thr Thr Gln Ser Gly Phe Glu Gly Phe Ile Lys Asp 165 170 175

Gln Phe Thr Thr Leu Pro Glu Val Lys Asp Arg Cys. Phe Ala Thr Gln 180 185 190

Val Tyr Cys Lys Trp Arg Tyr His Gln Gly Arg Asp Val Asp Phe Glu 195 200 205

Ala Thr Trp Asp Thr Val Arg Ser Ile Val Leu Gln Lys Phe Ala Gly 210 215 220

Pro Tyr Asp Lys Gly Glu Tyr Ser Pro Ser Val Gln Lys Thr Leu Tyr 225 230 235 240

Asp Ile Gln Val Leu Ser Leu Ser Arg Val Pro Glu Ile Glu Asp Met 245 250 255

Glu Ile Ser Leu Pro Asn Ile His Tyr Phe Asn Ile Asp Met Ser Lys 260 265 270

Met Gly Leu Ile Asn Lys Glu Glu Val Leu Leu Pro Leu Asp Asn Pro 275 280 285

Tyr Gly Lys Ile Thr Gly Thr Val Lys Arg Lys Leu Ser 290 295 300

<210> 10

<211> 298

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PKS carboxy truncated

<400> 10

Asp Tyr Lys Lys Asn Asp Glu Val Glu Phe Val Arg Thr Gly Tyr Gly 1 5 10 15

Lys Asp Met Ile Lys Val Leu His Ile Gln Arg Asp Gly Lys Tyr His
20 25 30

Ser Ile Lys Glu Val Ala Thr Ser Val Gln Leu Thr Leu Ser Ser Lys 35 40 45

Lys Asp Tyr Leu His Gly Asp Asn Ser Asp Val Ile Pro Thr Asp Thr 50 55 60

Ile Glu Thr Phe Ala Val Thr Ile Cys Glu His Phe Leu Ser Ser Phe 85 90 95

Lys His Val Ile Arg Ala Gln Val Tyr Val Glu Glu Val Pro Trp Lys 100 105 110

Arg Phe Glu Lys Asn Gly Val Lys His Val His Ala Phe Ile Tyr Thr 115 120 125

Pro Thr Gly Thr His Phe Cys Glu Val Glu Gln Ile Arg Asn Gly Pro 130 135 140

Pro Val Ile His Ser Gly Ile Lys Asp Leu Lys Val Leu Lys Thr Thr 145 150 155 160

Gln Ser Gly Phe Glu Gly Phe Ile Lys Asp Gln Phe Thr Thr Leu Pro

Glu Val Lys Asp Arg Cys Phe Ala Thr Gln Val Tyr Cys Lys Trp Arg

Tyr His Gln Gly Arg Asp Val Asp Phe Glu Ala Thr Trp Asp Thr Val 195 200 205 Arg Ser Ile Val Leu Gln Lys Phe Ala Gly Pro Tyr Asp Lys Gly Glu 210 215 220

Tyr Ser Pro Ser Val Gln Lys Thr Leu Tyr Asp Ile Gln Val Leu Thr 225 230 235 240

Leu Gly Gln Val Pro Glu Ile Glu Asp Met Glu Ile Ser Leu Pro Asn 245 250 255

Ile His Tyr Leu Asn Ile Asp Met Ser Lys Met Gly Leu Ile Asn Lys 260 265 270

Glu Glu Val Leu Leu Pro Leu Asp Asn Pro Tyr Gly Lys Ile Thr Gly 275 280 285

Thr Val Lys Arg Lys Leu Ser Ser Arg Leu 290 295

<210> 11

<211> 301

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PKS carboxy truncated

<400> 11

Met Ala His Tyr Arg Asn Asp Tyr Lys Lys Asn Asp Glu Val Glu Phe 1 5 10 15

Val Arg Thr Gly Tyr Gly Lys Asp Met Ile Lys Val Leu His Ile Gln 20 25 30

Arg Asp Gly Lys Tyr His Ser Ile Lys Glu Val Ala Thr Ser Val Gln 35 40 45

Leu Thr Leu Ser Ser Lys Lys Asp Tyr Leu His Gly Asp Asn Ser Asp 50 55 60

Val Ile Pro Thr Asp Thr Ile Lys Asn Thr Val Asn Val Leu Ala Lys 65 70 75 80

Phe Lys Gly Ile Lys Ser Ile Glu Thr Phe Ala Val Thr Ile Cys Glu 85 90 95

His Phe Leu Ser Ser Phe Lys His Val Ile Arg Ala Gln Val Tyr Val
100 105 110

Glu Glu Val Pro Trp Lys Arg Phe Glu Lys Asn Gly Val Lys His Val 115 120 125

His Ala Phe Ile Tyr Thr Pro Thr Gly Thr His Phe Cys Glu Val Glu 130 135 140

Gln Ile Arg Asn Gly Pro Pro Val Ile His Ser Gly Ile Lys Asp Leu 145 150 155 160

Lys Val Leu Lys Thr Thr Gln Ser Gly Phe Glu Gly Phe Ile Lys Asp 165 170 175

Gln Phe Thr Thr Leu Pro Glu Val Lys Asp Arg Cys Phe Ala Thr Gln 180 185 Val Tyr Cys Lys Trp Arg Tyr His Gln Gly Arg Asp Val Asp Phe Glu 195 200 205

Ala Thr Trp Asp Thr Val Arg Ser Ile Val Leu Gln Lys Phe Ala Gly 210 215 220

Pro Tyr Asp Lys Gly Glu Tyr Ser Pro Ser Val Gln Lys Thr Leu Tyr 225 230 235 240

Asp Ile Gln Val Leu Thr Leu Gly Gln Val Pro Glu Ile Glu Asp Met 245 250 255

Glu Ile Ser Leu Pro Asn Ile His Tyr Leu Asn Ile Asp Met Ser Lys 260 265 270

Met Gly Leu Ile Asn Lys Glu Glu Val Leu Leu Pro Leu Asp Asn Pro 275 280 285

Tyr Gly Lys Ile Thr Gly Thr Val Lys Arg Lys Leu Ser 290 295 300